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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
| 10/523,238 | 01/19/2005 | Piero Gili | 163-604 | 8736 |
| 47888 7590 02/28/2007 HEDMAN & COSTIGAN P.C. 1185 AVENUE OF THE AMERICAS NEW YORK, NY 10036 | | | EXAMINER COLLINS, TIMOTHY D | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 3643 | |
| SHORTENED STATUTORY PERIOD OF RESPONSE | | MAIL DATE | DELIVERY MODE | |
| 3 MONTHS | | 02/28/2007 | PAPER | |

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/523,238

Applicant(s)

GILI ET AL.

Examiner

Timothy D. Collins

Art Unit

3643

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 12 is/are rejected.
- 7) ☒ Claim(s) 10 and 11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 January 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>1/19/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 1 is objected to because of the following informalities: in the last line there is an unneeded ",", and "<->" that should be deleted. Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 4 and 6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In the claim 4, the phrase "helicopter type" is used. This phrase is indefinite because the phrase is unclear as to what "helicopter type" is referring. Phrases including "type" should be avoided because they do not positively define the claim. The examiner suggests that the applicant positively state the structure which makes it "helicopter type".

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. Claims 1-9 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 0583666 to Bundo (hereinafter called 666) in view of US 5026003 to Smith (hereinafter called 003).

a. Re claim 1, 666 discloses a highly maneuverable aircraft with aerostatic lift, in that it is a helium filled lighter than air craft and also it is highly maneuverable because this is functional language which does not limit the case. Also at least two non-rigid spindle elements are seen in numbers 1 and 2 at least in figure 1 as being side by side and joined with a connecting element 3. 666 also discloses that the propellers are fixed pitch or variable pitch inherently in that they are not specifically stated as being variable but there are only 2 options. 666 however does not disclose that the control system also comprises several electric motors which are adjustable with rotation around an axis perpendicular to the axis of rotation of the propeller. However 003 teaches of electric motor driven propellers on variable adjustable axis as seen in at least 100 and 106 and in the abstract where it is disclosed that the motors in the nacelles and ducts may be electric. Therefore it would have been obvious to one of ordinary skill in the art to have applied the teachings of electric motors and adjustable axis so as to make the craft more maneuverable and efficient as taught by 003. The above combination results in a craft that has multiple motors and propellers attached to the spindle shaped structures and 6 motors in the connector region like the 003 reference.

b. Re claim 2, 666 as modified above discloses inherently that the device is piloted or unpiloted in that there are only 2 options for this and it can also be seen inherently that the craft may be operated in a straight line and in level flight such that no deflection of control surfaces occurs.

c. Re claim 3, 666 as modified discloses that there are helium filled pipes in a connection between the spindle elements as seen in column 6 at lines 33-36.

d. Re claim 4, 666 as modified discloses that the craft is fly by wire in column 6 at lines 14-26, however 666 does not disclose that the craft has the claimed throttle lever, group and stick control. However it is old and well known in the art to control craft which these controls as seen in many helicopters and aircraft. Therefore it would have been obvious to one of ordinary skill in the art to have applied the teachings of these control systems into the device of 666 as modified so as to provide a familiar control layout for pilots of the craft.

e. Re claim 5, 666 as modified discloses six motors where 4 are used for forward flight and 2 are used for vertical rapid ascent and descent.

f. Re claims 6, 666 as modified discloses that the craft has 4 propellers with vertical planes fitted on arms as seen in numbers 100, 106 and 104 and also that 2 motors have horizontal propellers as seen in the vertical lift propellers in the connector regions. However 666 as modified does not disclose that the first 4 motors have arms that are vertical however it has been held that mere rearrangement of parts involves only routine skill in the art. In re Japikse, 86

USPQ 70. This would be done for the purpose of making the craft narrow and also maneuverable from left to right by using the motors on the arms.

g. Re claims 7 and 8, 666 as modified above discloses 4 motors at least. 2 motors are used for forward flight as seen in numbers 100, 106 and 104, there are 4 of these, which is at least 2. Also 666 as modified discloses at least 2 vertical flight motors as seen in the connector at numbers 98 which control ascent and descent and longitudinal control. Also it can be seen from the figures of 003 that the left and right motors are on horizontal shafts at the sides of the gondola (which is taken to be the area which houses the people such as in the rooms of 2 as seen at least in 003 at column 2 in lines 14-17 and 28-31. The connector also houses the horizontal propeller disc motors.

h. Re claim 9, 666 as modified does not disclose ballonets however the examiner takes official notice that ballonets for increased control of airships is old and well known in the art. Therefore it would have been obvious to one of ordinary skill in the art to have applied the teachings of ballonets into the device of 666 as modified so as to increase the hovering capability and increase the maneuverability of the craft.

i. Re claim 12, 666 as modified does not disclose retractable landing gear on the craft however the examiner takes official notice that retractable landing gear on air vehicles is old and well known in the art. Therefore it would have been obvious to one of ordinary skill in the art to have applied the teachings of retractable landing gear into the device of 666 as modified so as to allow the craft

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to land in various circumstances and to provide for an aerodynamic profile while in flight.

Allowable Subject Matter

6. Claims 10-11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art discloses airships.


- j. US 6843448
- k. US 5383627
- l. US 6527223
- m. US 6427943
- n. US 1808132
- o. US 6371409
- p. US 5538203

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy D. Collins whose telephone number is 571-272-6886. The examiner can normally be reached on M-F, 7:00-3:00, with every other Fri. off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter M. Poon can be reached on 571-272-6891. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

 2/27/07
Timothy D. Collins
Primary Examiner
Art Unit 3643